

STOCKPILE REPORT

to the Congress

JANUARY - JUNE 1967

**EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF EMERGENCY PLANNING
WASHINGTON, D. C. 20504**

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OFFICE OF THE DIRECTOR

October 5, 1967

Honorable Hubert H. Humphrey
President of the Senate

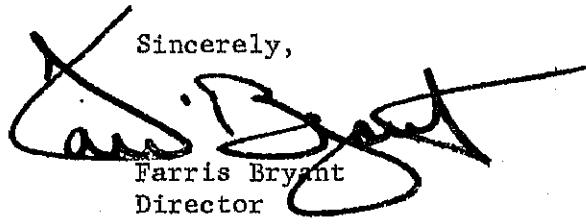
Honorable John W. McCormack
Speaker of the House of Representatives

Sirs:

Pursuant to Section 4 of the Strategic and Critical Materials Stock Piling Act, Public Law 520, 79th Congress, there is presented herewith the semiannual report to the Congress on the strategic and critical materials stockpiling program for the period January 1 to June 30, 1967.

A statistical supplement to this report was transmitted to you on September 19, 1967.

Sincerely,


Farris Bryant
Director

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SUMMARY

This report covers the principal activities in stockpile planning and management carried out during January 1 through June 30, 1967, under the provisions of Public Law 520 (79th Congress), the Strategic and Critical Materials Stock Piling Act.

Strategic materials on hand in all Government inventories as of June 30, 1967, amounted to \$6.9 billion at acquisition cost and \$6.5 billion at estimated market value. Of the total materials in Government inventories, \$3.8 billion at cost and \$3.3 billion at estimated market value are considered to be in excess of stockpile objectives. Comparison of the estimated market value of the objectives established and the extent to which materials on hand in all Government inventories meet these objectives are shown in the bar chart on page 3.

Cumulative sales commitments by the General Services Administration for the disposal of surplus materials as of June 30, 1967, totaled approximately \$2.7 billion at sales value. Disposal sales commitments during January-June 1967 totaled \$262.2 million, a slight increase above the \$204.7 million in sales during the preceding six months but less than half the record sales of \$582.2 million during January-June 1966. (See Figures 1 and 2, page 12)

INTRODUCTION

SUPPLY-REQUIREMENTS STUDIES

In order to assure that up-to-date supply and requirements data are reflected in the National Stockpile objectives, the Office of Emergency Planning maintains close surveillance over the individual materials that are stockpiled and initiates new supply-requirements analyses whenever reviews indicate that the status of a particular material has substantially changed or will change in the future. In January 1967, OEP completed a number of such special analyses. As indicated in the previous report, these new studies resulted in the establishment of revised conventional war stockpile objectives for nine materials—bismuth, feathers and down, magnesium, molybdenum, nickel, platinum, rutile, titanium, and vanadium.

In addition to special studies, OEP is currently engaged in one of its periodic analyses of the supply-requirements status for all stockpiled materials under conventional war emergency assumptions. A substantial portion of these studies is expected to be completed, and revised objectives will, where found to be necessary, be established by the end of 1967.

Stockpile objectives for nuclear war were announced by OEP in early January 1967. The nuclear war objectives represented the culmination of three years of study and in-

volved the cooperation of approximately 30 Federal departments and agencies. The results disclosed that nuclear war objectives for strategic materials were less than or identical to the objectives for conventional war, with the exception of morphine sulfate where the nuclear objective was higher. Morphine sulfate is an upgraded form of opium and is highly regarded as a pain killer. The stockpile objectives set for conventional war, therefore, are controlling, except in the case of morphine sulfate.

In carrying out the nuclear war analyses, OEP developed new techniques for determining the goals that would be set for the various sectors of the economy and for computing the requirements for individual materials. The Inter-Industry Study of the American Economy, completed by the Office of Business Economics, Department of Commerce, in November 1964 and new data on the use of materials were important factors in the study.

The techniques and methodology developed for this study are being used in other studies of emergency period requirements. For example, the Department of Transportation, with OEP assistance, is using them in study of transportation requirements that would have to be met in emergency periods. BDSA and OEP are also using them in supply-requirements analyses for conventional war.

SUMMARY OF GOVERNMENT INVENTORIES OF STRATEGIC AND CRITICAL MATERIALS

As of June 30, 1967, the strategic materials held in all Government inventories amounted to \$6.9 billion at acquisition cost and \$6.5 billion at estimated market value. Of this total, \$4.5 billion at cost was in the National Stockpile, \$1.4 billion in the Supplemental Stockpile, \$1.0 billion in the Defense Production Act inventory, and \$7.3 million in the Commodity Credit Corporation inventory. Of the total materials in Government inventories, approximately \$3.8 billion at cost and \$3.3 billion at estimated market value are considered to be in excess of stockpile objectives. Over 83

percent of the market value of the total excess is made up of 12 materials consisting of aluminum, bauxite (Jamaica and Surinam), metallurgical grade chromite, cobalt, industrial diamond stones, lead, metallurgical grade manganese, nickel, rubber, tin, tungsten, and zinc.

The following table is a summary of the total value of all materials carried in Government inventories, including those with quantities in excess of determined stockpile objectives. It indicates the acquisition cost and

estimated market value of materials with inventories meeting stockpile objectives, and ma-

terials with inventories excess to stockpile objectives.

SUMMARY OF GOVERNMENT INVENTORIES OF
STRATEGIC AND CRITICAL MATERIALS

June 30, 1967

	Acquisition Cost	Market Value ¹
I. Total Inventories		
National Stockpile	\$4,463,807,100	\$4,572,374,300
Supplemental Stockpile	1,435,517,700	1,329,698,100
Defense Production Act	1,029,729,300	612,824,500
Commodity Credit Corporation	7,266,600	7,915,700
Total on Hand	6,936,320,700	6,522,812,600
On Order	26,396,600	27,094,200
II. Inventories Within Objective		
Total on Hand	3,116,264,000	3,177,237,100
III. Inventories Excess to Objective		
Total on Hand	3,820,056,700	3,345,575,500

¹ Market values are computed from prices at which similar materials are being traded currently; or, in the absence of current trading, an estimate of the price which would prevail in commercial markets. The market values are generally unadjusted for normal premiums and discounts relating to contained qualities. The market values do not necessarily reflect the amount that would be realized at time of sale.

Source: General Services Administration

STATUS OF STOCKPILE OBJECTIVES

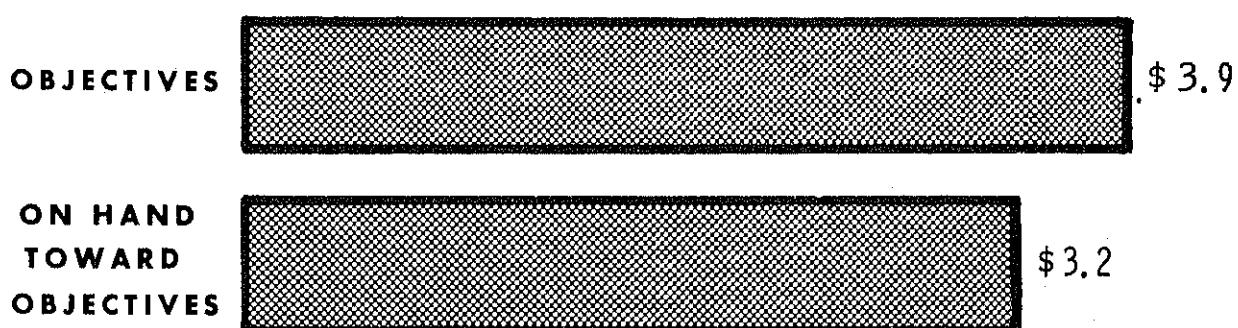
The bar chart below shows the estimated market value of the objectives established and the extent to which materials on hand in all Government inventories (National Stockpile,

Supplemental Stockpile, DPA, and CCC) meet these objectives. The figures do not include the quantities on hand in all Government inventories which are in excess of stockpile objectives (\$3.8 billion).

STATUS OF STOCKPILE OBJECTIVES

AS OF JUNE 30, 1967

(In Billions of Dollars)
MARKET VALUE



Inventories, including objectives, and balance of disposal authorizations, for each material on the Strategic and Critical Materials List are shown in the following summary. As of June 30, 1967, total quantities of stockpile grade materials on hand and on order for all Government-owned inventories are in excess or equal to the stockpile objectives for 65 of the 77 basic materials on the List of Strategic and Critical Materials for Stockpiling. In addition to the specification grade materials, Government inventories contain nonspecification grades not credited to stockpile objectives. Most of the nonspecification grade materials in the National Stockpile were acquired by the transfer of Government-owned surpluses to the stockpile after World War II while others were accepted as contract termination inven-

tories. Several were of specification grade when acquired but no longer qualify due to changes in industry practices and other technological advances. Disposal action for practically all excesses shown in the following summary has been authorized by the Congress or in the case of DPA materials by the OEP. There are, however, a few materials for which disposal was deferred pending new supply-requirements studies or improvement in market conditions. Certain technologically obsolete grades of materials now in inventory will be transferred to the disposal list as soon as new acquisitions are made of currently standard qualities. Inventory changes during the report period were due primarily to disposals, or to reclassification and other adjustments in the inventories.

SUMMARY OF GOVERNMENT INVENTORIES, OBJECTIVES,
EXCESSES AND BALANCE OF DISPOSAL AUTHORIZATIONS

Basic Stockpile Materials
As of June 30, 1967

(Market Value—\$ Millions)

Commodity	Unit	Objective	Total Inventory ^{1,2}	Market Value	Excess ²	Market Value	Balance of Disposal Authorization
1. Aluminum	ST	450,000	1,501,875	\$750.9	1,051,875	\$525.9	1,047,609 ³
2. Aluminum oxide, fused	ST	300,000	429,265	67.6	129,265	17.9	129,265
3. Antimony	ST	25,500	49,390	42.9	23,890 ⁴	20.4	2,638
4. Asbestos, amosite..	ST	40,000	65,841	18.8	25,841	5.4	14,601
5. Asbestos, chrysotile	ST	18,700	15,738	9.8	5,282 ⁴	1.4	1,936
6. Bauxite, metal, Jamaica	LDT	5,000,000	8,858,881	103.1	3,858,881 ⁵	44.9	714,000
7. Bauxite, metal, Surinam	LDT	5,300,000	7,889,967	121.1	2,589,967 ⁵	39.8	0
8. Bauxite, refractory	LCT	173,000	236,258	9.9	63,258	2.7	49,416
9. Beryl	ST	28,000	48,926	61.6	17,309 ⁶	8.9	0
10. Bismuth	LB	2,400,000	3,812,315	15.2	1,412,315 ⁶	5.6	0
11. Cadmium	LB	5,100,000	13,865,532	35.1	8,765,532 ⁷	22.2	3,616,092
12. Castor oil	LB	22,000,000	128,356,509	19.7	106,356,509 ⁸	15.3	54,803,518
13. Celestite	ST	10,300	47,325	1.1	37,025	.7	28,811
14. Chromite, chemical	SDT	600,000	1,059,801	27.3	459,801 ⁹	11.8	116,458
15. Chromite, metallurgical ...	SDT	2,970,000	6,177,912	318.0	3,207,912 ¹⁰	193.9	1,170,617
16. Chromite, refractory	SDT	1,425,000	1,426,671	21.7	1,671	.08	0
17. Cobalt	LB	42,000,000	97,163,883	163.0	55,163,883 ⁸	92.6	19,601,022
18. Columbium	LB	1,176,000	18,805,693	22.8	12,129,693 ⁸	20.7	5,388,746
19. Copper	ST	775,000	315,458	246.1	0	0	0
20. Cordage fiber, abaca	LB	50,000,000	132,757,025	25.2	82,757,025	15.7	81,285,843
21. Cordage fiber, sisal	LB	200,000,000	258,811,353	22.0	58,811,353	5.0	55,725,607
22. Corundum	ST	2,500	1,964	.2	1,952 ⁴	.2	0
23. Diamond dies, small	PC	25,000	14,993	.6	442 ¹¹	.02	0
24. Diamond, industrial bort ..	KT	24,700,000	39,632,098	93.0	14,982,093 ¹²	35.2	0
25. Diamond, industrial stones..	KT	16,500,000	25,525,872	355.3	9,025,872 ¹⁰	121.8	1,800,000
26. Feathers and down	LB	3,000,000	4,773,183	14.3	1,773,183	2.9	0
27. Fluorspar, acid grade	SDT	540,000	1,147,847	88.7	257,847 ^{10 13}	8.5	6,067

Commodity	Unit	Objective	Total Inventory ^{1,2}	Market Value	Excess ²	Market Value	Balance of Disposal Authorization
28. Fluorspar, metallurgical	SDT	850,000	412,243	\$ 15.7	0	\$ 0	0
29. Graphite, natural, Ceylon	ST	5,500	5,886	1.3	386 ¹¹	.09	0
30. Graphite, natural, Malagasy	ST	18,000	33,777	8.8	15,777	1.8	15,394
31. Graphite, other	ST	2,800	4,901	1.2	2,101	.5	2,009
32. Iodine	LB	8,000,000	7,105,815	8.4	0	0	0
33. Jewel bearings	PC	57,500,000	54,427,169	22.8	14,726,698 ¹⁴	6.2	0
34. Kyanite, Mullite	SDT	4,800	6,244	.7	1,444	.1	0
35. Lead	ST	0	1,202,136	336.6	1,202,136 ⁴	336.6	84,005
36. Magnesium	ST	90,000	146,140	93.5	56,140 ⁵	35.9	0
37. Manganese, battery, natural	SDT	80,000	308,839	21.9	228,839 ⁴	16.2	0
38. Manganese, battery, synthetic dioxide	SDT	6,700	24,824	12.2	18,124	8.9	18,122
39. Manganese ore, chemical A	SDT	68,500	146,914	13.0	78,414 ⁴	6.9	0
40. Manganese ore, chemical B	SDT	64,000	100,838	5.0	36,838 ⁴	1.8	0
41. Manganese, metallurgical	SDT	7,900,000	18,026,489	428.9	5,126,489 ¹⁵	184.2	3,329,707
42. Mercury	FL	200,000	200,365	97.9	365 ¹¹	.2	0
43. Mica, muscovite block St./ Better	LB	6,000,000	15,455,526	65.5	8,890,776 ¹⁶	25.9	7,298,032
44. Mica, muscovite film, 1 & 2 quality	LB	2,000,000	1,441,670	16.3	6,420	.006	6,420
45. Mica, muscovite splittings	LB	22,200,000	44,664,023	53.6	22,464,023	27.0	22,462,028
46. Mica, phlogopite block	LB	17,000	223,239	.06	206,520	.04	206,520
47. Mica, phlogopite splittings	LB	1,300,000	5,047,103	8.1	3,747,103	6.0	3,747,479
48. Molybdenum	LB	40,000,000	58,693,128	99.1	18,693,128 ⁶	31.7	752,058
49. Nickel	ST	20,000	78,316	133.7	58,316 ⁶	99.6	0
50. Opium	AVLB	143,000	164,062	16.6	21,062	2.6	0
51. Platinum group, iridium	TrOz	17,000	14,111	2.6	174 ¹⁷	.03	0
52. Platinum group, palladium	TrOz	1,300,000	850,052	32.3	6,395 ¹⁷	.2	0
53. Platinum group, platinum	TrOz	335,000	450,091	49.7	115,091 ⁶	12.7	0
54. Pyrethrum	LB	25,000	67,044	.8	42,044 ⁷	.5	0
55. Quartz crystals	LB	650,000	5,463,426	58.0	4,813,426	50.5	4,811,323
56. Quinidine	OZ	2,000,000	1,600,438	4.4	0	0	0

Commodity	Unit	Objective	Total Inventory ^{1,2}	Market Value	Excess ²	Market Value	Balance of Disposal Authorization
57. Quinine	OZ	4,130,000	3,548,135	\$ 5.4	0	\$ 0	0
58. Rare earths	SDT	3,000	15,788	7.1	12,788 ¹⁸	5.8	0
59. Rubber	LT	130,000	528,171	252.9	398,171	190.6	375,299
60. Rutile	SDT	200,000	47,617	5.7	0	0	0
61. Sapphire and Ruby	KT	18,000,000	16,308,797	.2	0	0	0
62. Selenium	LB	475,000	403,702	1.8	0	0	0
63. Shellac	LB	8,300,000	14,114,089	2.1	6,420,126	.7	5,129,128
64. Silicon carbide crude	ST	30,000	196,453	43.0	166,453 ⁴	36.5	0
65. Silver	FineTrOz	165,000,000	¹⁰				
66. Sperm oil	LB	28,400,000	23,481,738	3.8	81,788 ⁷	.01	0
67. Talc, steatite block & lump	ST	200	1,254	.4	1,054	.3	1,048
68. Tantalum	LB	3,400,000	3,990,905	50.6	²⁰	0	0
69. Thorium oxide	LB	500,000	500,000 ²¹	0	0	0	0
70. Tin	LT	200,000	263,397	908.6	63,397	218.7	62,197
71. Titanium sponge ..	ST	37,500	30,070	72.0	0	0	9,364
72. Tungsten	LBW	44,000,000	190,391,782	518.8	146,391,782 ⁸	399.7	63,139,786
73. Vanadium	ST	1,500	5,609	27.1	4,109	17.9	3,972
74. Vegetable tannin, chestnut	LT	15,000	33,526	6.7	18,526	3.7	18,519
75. Vegetable tannin, quebracho	LT	86,000	196,450	89.6	110,450	22.3	110,331
76. Vegetable tannin, wattle	LT	15,000	38,940	7.7	28,940	4.8	23,912
77. Zinc	ST	0	1,198,618	323.6	1,198,618 ⁴	323.6	118,552

¹ Total inventory consists of stockpile and nonstockpile grades.

² Includes quantities that have been committed but not shipped, as well as quantities of nonstockpile quality material which may be held toward objectives.

³ Committed for sale but undelivered under long-term contracts.

⁴ Unecommitted balance of excess held due to market impact.

⁵ Balance of excess pending Congressional approval.

⁶ Congressional approval for disposal of 9,888 short tons is being requested. Excess quantity excludes (i) 3,617 ST in beryllium copper master alloy and (ii) the amount held in the CCC inventory.

⁷ Balance of excess pending supply-requirements study.

⁸ Balance of excess pending present sales program.

⁹ Balance of excess retained due to high quality.

¹⁰ Balance of excess deferred by the Congress due to market impact.

¹¹ Retained due to limited quantity.

¹² Deferred due to foreign situation.

¹³ Excludes 350,000 SDT credited to metallurgical fluorspar.

¹⁴ Factory inspecting feasibility of reworking bearings to meet stockpile specifications.

¹⁵ Includes high carbon ferromanganese. Also includes quantity of metallurgical manganese ore retained for strategic reasons.

¹⁶ Excludes 564,750 LBS credited to mica, muscovite film.

¹⁷ Quantity being held for upgrading.

¹⁸ 7,640 SDT pending Congressional approval; 5,148 SDT pending supply-requirements study.

¹⁹ Under PL 90-29, objective will be filled in June 1968 from stocks currently held by the Treasury.

²⁰ Takes into consideration materials required in upgrading.

²¹ Includes 1,086,960 LBS thorium nitrate credited as 500,000 LBS thorium oxide.

OTHER MATERIALS IN GOVERNMENT INVENTORIES

In addition to inventories, including objectives, and balance of disposal authorizations

for each material on the Strategic and Critical Materials List, inventories covering materials that have been removed from the stockpile list, and others for which there are no stockpile objectives, are indicated in the table below.

SUMMARY OF GOVERNMENT INVENTORIES AND BALANCE OF DISPOSAL AUTHORIZATIONS COVERING MATERIALS FOR WHICH THERE ARE NO STOCKPILE OBJECTIVES

As of June 30, 1967
(Market Value—\$ Millions)

Commodity	Unit	Total Inventory ¹	Market Value	Balance of Disposal Authorizations
Antimonial lead	ST	10,763	\$ 3.2	9,894
Asbestos, crocidolite	ST	48,362	11.1	47,373
Colemanite	LDT	67,571	.7	67,506
Cryolite	ST	1,279	.2	0
Diamond tools	PC	64,178 ²	.8	0
Mica, muscovite block, St.B/Lower	LB	4,320,202	8.6	4,320,202
Mica, muscovite film, 3rd quality	LB	496,400	.5	496,400
Platinum group metals, ruthenium	TrOz	13,699	.8	13,699
Silk noils	LB	52,199	.04	0
Talc, steatite ground	ST	3,900	.02	3,900
Thorium nitrate (oxide content)	LB	7,910,569 ³	15.3	3,188,861
Thorium residue	LB	839,079	0	839,079
Zirconium ore, baddeleyite	SDT	16,514	.7	16,514
Zirconium ore, zircon	SDT	1,721	.002	1,721

¹ Includes quantities that have been committed but not shipped.

² Deferred due to market impact.

³ Includes 1,086,960 pounds credited to thorium oxide objective.

NATIONAL STOCKPILE ACTIVITIES

PROCUREMENT AND UPGRADING

The OEP Strategic Stockpile Procurement Directive for FY 1967, as amended, listed 16 program actions involving (1) cash; (2) barter of surplus agricultural commodities and

(3) payment in excess strategic materials for new acquisition and beneficiation purposes.

The materials, quantities involved, and the action methods authorized are shown in the following table:

FISCAL YEAR 1967 PROCUREMENT AUTHORIZATIONS

Material	Unit	Cash	Upgrading	Barter
1. Jewel bearings	PC	2,000,000		
2. Copper wire bars	ST	139,000+		
3. Copper, OFHC type	ST			3,000

<i>Material</i>	<i>Unit</i>	<i>Cash</i>	<i>Upgrading</i>	<i>Barter</i>
4. Morphine sulfate	M-AV-LBS	34,233		
5. Tungsten metal powder	W-LBS	250,000		
6. Asbestos, chrysotile	ST			3,247
7. Corundum	ST			2,500
8. Ferromanganese, medium carbon	ST	36,000		
9. Iridium	TROZ			3,063
10. Iridium	TROZ	300 Max.		
11. Palladium	TROZ			100,000
12. Palladium	TROZ			362,065 *
13. Palladium	TROZ	10,000 Max.		
14. Quinidine	AVOZ			399,562
15. Rutile	ST			58,000
16. Selenium	LB			71,298

¹ Defense Production Act expansion program.

² P.L. 89-390, April 14, 1966, materials exchange action.

The Property Management and Disposal Service of the General Services Administration makes provision for cash purchases and upgrading services under the Strategic and Critical Materials Stock Piling Act and the Defense Production Act. Barter arrangements, using surplus agricultural commodities in exchange for strategic materials needed to fulfill stockpile objectives, are made by the Department of Agriculture, Foreign Agricultural Service, Barter and Stockpiling Division.

The status of activity on June 30, 1967, in respect to the 16 listed projects was as follows:

1. *Jewel bearings.* The William J. Langer Jewel Bearing Plant at Rolla, North Dakota, performs the dual purpose of maintaining within the United States a capability of producing jewel bearings in time of war and manufacturing in time of peace the bearings that are vital to the performance of military and other essential instruments. The plant is contract operated by the Bulova Watch Company. The stockpile contract and lease for the property was extended to June 30, 1968. Part of the plant's production is used to fill current military demands. Production levels are now at a rate of about 50,000 bearings per week due to increased efficiency following plant modernization. Quantities not needed to meet military orders but produced in order to schedule operations at an efficient level are purchased for the stockpile. The stockpile objective is

being gradually filled in an orderly manner under these procedures. In fiscal year 1967 the plant delivered about 624,000 bearings to the stockpile. The plant is also examining and reworking, where feasible, some of the excess World War II bearings which the stockpile had been holding, so that the ultimate objective-inventory will be technologically up-to-date.

A proposal for a reduction in prices covering sales of jewel bearings to the Department of Defense contractors was rejected on the basis that no change in prices should be considered until action is taken on the proposed legislation being submitted by the GSA which will authorize new methods for operating the plant. The proposed legislation would permit financing of production against predetermined inventory levels. This legislative proposal is currently receiving agency clearance by the Bureau of the Budget.

2. *Copper.* On March 29, 1966, the President made a finding that a program for encouraging additional production through new purchases or commitments to purchase copper under section 303 of the Defense Production Act was essential to the national security. The high level of industrial consumption of copper accentuated by the pressures of the Viet Nam situation influenced this determination. Work stoppages in many countries had seriously affected world supply and stockpile inventories

had receded below the objective as a result of releases to meet military and other industrial shortages within the United States. The GSA was directed to accelerate where practical the development of new and additional copper production in the United States under the provisions of the Defense Production Act. New purchase authority under that Act, as amended June 30, 1964, is restricted to \$100 million. Expansions receiving financial support from the Government were in addition to such increases in capacity for the production of copper as were contemplated or already underway by domestic producers. Although a number of proposals have been received by the GSA in response to the invitation to participate in the copper expansion program, the statutory limitation on contracting and commitments has required a degree of selectivity. One contract still under negotiation as of June 30, 1967, could result, substantially, in the exhaustion of the contracting authority. A few small projects may be feasible from the residual authority if the negotiations for the larger expansion are successfully completed.

3. *Copper, OFHC type.* The basic Procurement Directive issued in FY 1967 provided for the upgrading of 6,000 short tons of copper to the high purity grade. In February 1967, the OEP re-evaluated the overall copper inventory and determined that further acquisitions of the OFHC type would create a relative imbalance between the amounts of standard copper and special grades in the inventory. The upgrading to OFHC type was, therefore, curtailed and is not planned for resumption until the inventory level of standard copper is improved.

4. *Morphine sulfate.* The upgrading of crude gum opium to the more readily usable form of morphine sulfate is expected to be completed by January 31, 1968, under a contract executed September 7, 1966. A substantial quantity has already been returned by the contractor. This material is specifically stockpiled for post-nuclear attack purposes. It is stored at maximum security facilities. Emergency distribution would be under the direction of the Department of Health, Education and Welfare.

5. *Tungsten metal powder, hydrogen reduced.* This material is one of a number of higher forms of tungsten stockpiled in limited amounts to meet the initial surge of abnormal emergency demand. The subobjective is being gradually acquired by upgrading basic ores and concentrates. Approximately 250,000 pounds were contracted for this year.

6. *Asbestos, chrysotile type, low iron.* No contracts effected in FY 1967.

7. *Corundum.* No contracts effected in FY 1967.

8. *Ferromanganese, medium carbon.* Placed on the upgrading list late in the fiscal year as the availability of production capacity improved. Preparation of bid solicitation has been completed with probable contracting action to take place in FY 1968.

9. *Iridium.* Awaiting approval of listing as eligible for barter.

10. *Iridium.* Small quantity of subspecification iridium recently acquired as surplus from another Federal agency is scheduled for beneficiation to stockpile quality. Action delayed until pre-contracting assays are completed by the U.S. Assay Office.

11. *Palladium.* No barter contracting effected. Acquisition through exchange for stockpile excesses being explored. (See item 12 below.)

12. *Palladium.* Public Law 89-390 authorizes materials approved for disposal to be exchanged for palladium. The tight supply-demand situation for palladium in FY 1967 precluded acquisitions. Possible easing of supply in late June 1967 indicates some procurement potential in FY 1968.

13. *Palladium.* Upgrading covers small amount of excess palladium received on surplus declaration of other Federal agency plus some of the older stockpile inventory. Awaiting assay. (See item 10 above.)

14. *Quinidine.* Awaiting approval of listing as eligible for barter. (See also item 9 above.)

15. *Rutile.* Barter contract for 3,400 tons was awarded by CCC which, when delivered, will complete the former objective of 51,000 tons. The rutile objective was raised in FY 1967 from 51,000 to 200,000 short tons. Ad-

ditional procurement will be necessary to reduce the new deficit.

A domestic rutile production expansion program was established by OEP under the provisions of the Defense Production Act on January 23, 1967. The potential of acquiring substitute domestic materials useful for titanium metal and welding rod production will not be known until results are obtained from the research projects established in late June 1967 by the Department of the Interior under a certification by the Office of Emergency Planning. Successful completion of the program will decrease dependence on foreign sources thereby providing the basis for reduction of the stockpile objective. In the interim, action to reduce the rutile deficit will be continued under other existing statutory authorities.

16. *Selenium.* The CCC entered into two contracts which, upon delivery, will fulfill the selenium objective.

DISPOSAL PROGRAM ACTIVITY

The market demand for many stockpile materials available for disposal remained slow during the January-June 1967 period. Disposal sales and commitments for the six months amounted to \$262.2 million, somewhat higher than the \$204.7 million during July-December 1966, but substantially below the record sales of \$582.2 million for January-June 1966. Several factors have contributed to the lower sales level. These include among others, the general slowdown throughout the domestic economy and in foreign countries and lower productive activity in certain major industries; the increased availability, both domestically and worldwide, of several Government-held materials previously in short supply; the depletion of Government surplus stocks for certain materials; and the Government's inability to release several materials in excess of stockpile needs pending Congressional approval. The following table shows that seven materials made up the major difference in sales during the comparable periods.

SALES COMMITMENTS (\$Millions)

	January-June 1966	January-June 1967	Decrease
Aluminum ..	\$110.0	\$ 21.7	\$ 88.3
Copper	156.1	114.9	41.2
Molybdenum	19.3	1.5	17.8
Nickel	126.9	19.3	107.6
Platinum ...	29.5	0	29.5
Tin	34.4	15.8	18.6
Zinc	13.3	4.5	8.8
TOTAL ..	\$489.5	\$177.7	\$311.8

During the six months period, approximately 56 approved materials were available for disposal from Government inventories of which 46 were in the National and Supplemental Stockpiles, 7 in the Defense Production Act inventory and 3 from both the Stockpile and the DPA inventory. Of the materials available for disposal, 36 made up the sales during the period.

During the report period, a constant review of existing programs was maintained in accordance with the policy set forth in Defense Mobilization Order 8600.1 to insure that the mutual interests of industry, foreign countries, and the U.S. Government are fully protected. Accordingly, reviews of sales plans and related matters were conducted with respect to abaca, beryl, castor oil, cobalt, mica, quartz crystal, rubber, tin, and tungsten and sales rates were adjusted in keeping with market conditions.

LEGISLATION RELATIVE TO STOCKPILE DISPOSALS

No legislation authorizing disposal was enacted during the January-June period. In January, OEP authorized the General Services Administration to request Congressional approval for the release of five materials from the National and Supplemental Stockpiles. These were determined to be excess to stockpile needs on the basis of supply-requirements studies completed late in 1966 and early January 1967. Six disposal plans, including rare earths which was approved by OEP in 1966,

were submitted for Congressional consideration in February and were pending as of June

30. Included among these are some materials in critically short supply.

LEGISLATION RELATIVE TO STOCKPILE MATERIALS
January—June 1967

Material	Unit	Quantity	Value (\$ Millions)	Bill No.
Bismuth	LB	1,200,000	\$ 4.8	H.R. 5788
Magnesium	ST	55,000	35.2	H.R. 5785
Molybdenum	LB	15,000,000	24.3	H.R. 5784
Nickel	LB	60,000,000	50.0	H.R. 5786
Platinum	TrOz	115,000	12.6	H.R. 5789
Rare Earths	ST	7,640	3.4	H.R. 5787
TOTAL			\$130.3	

On March 7, 1967, the President, at the recommendation of the Director of OEP and the Secretary of Defense, directed that 200,000 ounces of quinine be released to the Department of Defense from the National Stockpile for the purposes of common defense pursuant to Section 5 of the Strategic and Critical Materials Stock Piling Act, as amended.

SALES COMMITMENTS

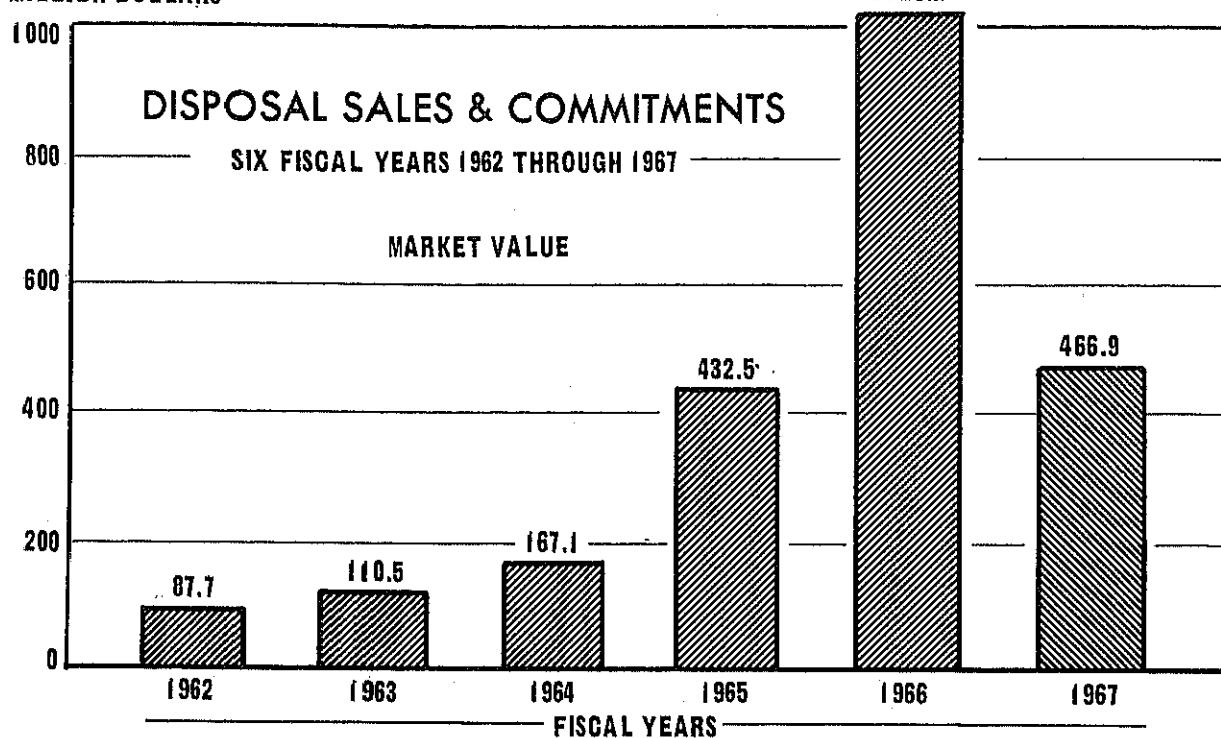
For the six months January-June 1967, sales commitments totaled \$262.2 million at sales value. Of this total, \$229.5 million were from the National and Supplemental Stockpiles, \$29.2 million from the Defense Production Act inventory, and about \$3.5 million from sales of mercury from the Federal Property Act inventory. These materials had an acquisition cost of \$262.4 million indicating that the

Government practically recovered its original cost of the materials. Commercial sales accounted for \$224.6 million of the total commitments and Government-use programs totaled approximately \$37.6 million.

Sales commitments for the previous six months were \$204.7 million, making the total for fiscal year 1967, \$466.9 million. Since the inception of the disposal program in 1958, total disposal sales approximate \$2.7 billion at sales value (Figures 1 and 2). A list of the materials sold during the January-June period is shown in the following table. It is noted that 7 materials account for approximately \$225.9 million or 86 percent of the total sales: aluminum, \$21.7 million; metallurgical chromite, \$13.9 million; copper, \$114.9 million; nickel, \$19.8 million; rubber, \$27.0 million; tin, \$15.8 million; and tungsten, \$13.3 million.

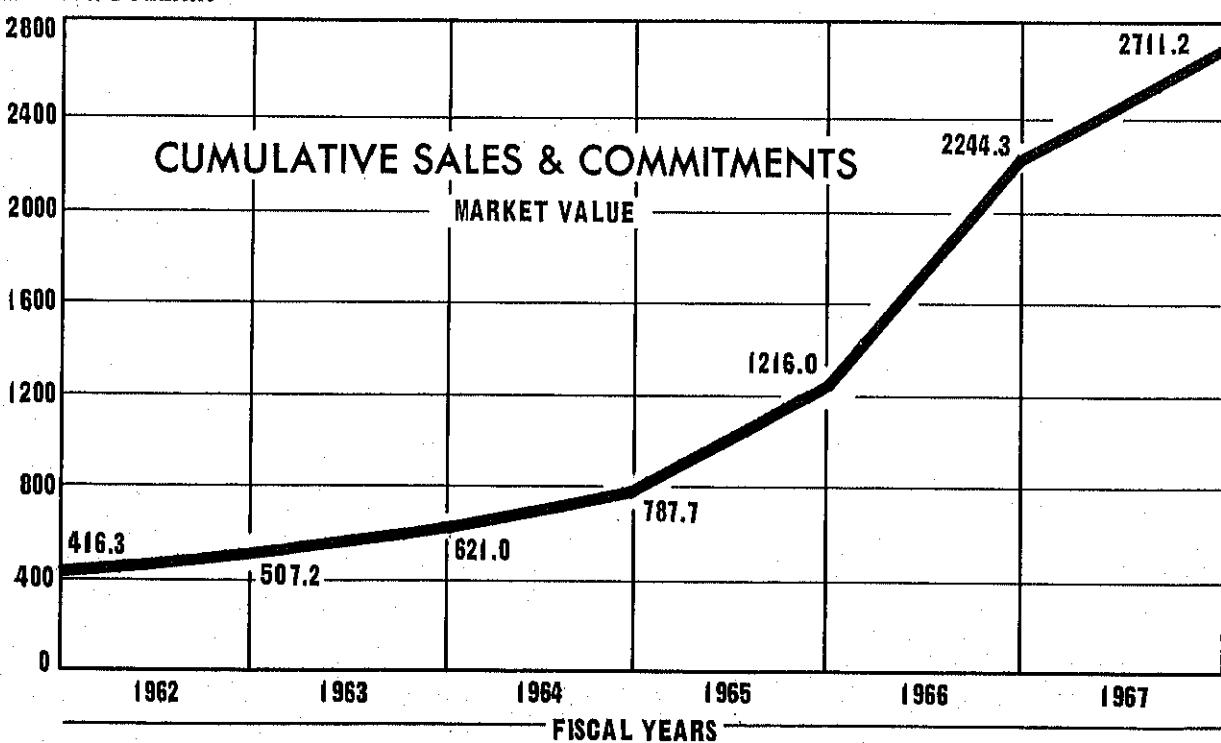
MILLION DOLLARS

FIGURE 1



MILLION DOLLARS

FIGURE 2



DISPOSALS OF STRATEGIC AND CRITICAL MATERIALS
January-June 1967

Material	Unit	Quantity	Sales Commitments		
			Government Use	Industrial Use	Total Sales Value
NATIONAL AND SUPPLEMENTAL STOCKPILE INVENTORIES:					
Aluminum	ST	36,295	\$	17,816,964	\$ 17,816,964
Antimony	ST	58		36,995	36,995
Asbestos, amosite	ST	50		7,800	7,800
Asbestos, crocidolite	ST	50		9,500	9,500
Bauxite, refractory	LDT	16,597		700,508	700,508
Cadmium	LB	721,346		1,788,301	1,788,301
Castor oil	LB	19,526,350		8,149,852	8,149,852
Chromite, metallurgical	SDT	591,744		13,868,261	13,868,261
Copper	ST	150,000	1,888,154	113,002,680	114,890,834
Cordage fiber, abaca	LB	4,588,475	148,546	616,193	764,739
Cordage fiber, sisal	LB	10,525,750		868,831	868,831
Fluorspar	SDT	15,642		489,594	489,594
Graphite, Malagasy	ST	165		(10,743) ¹	(10,743) ¹
Graphite, other than					
Ceylon and Malagasy	ST	246		34,522	34,522
Lead	ST	5,723	118,924	1,582,737	1,701,661
Magnesium	ST	2,456	264,000	1,240,145	1,504,145
Manganese,					
metallurgical.	SDT	94,341		2,476,885	2,476,885
Mica	LB	4,509		(7,091) ¹	(7,091) ¹
Molybdenum	LB	789,852		1,536,944	1,536,944
Nickel	LB	18,600,283	8,480,067	15,856,017	19,336,084
Platinum group metals:					
Rhodium	TrOz	173	17,913	18,494	36,407
Quartz Crystals	LB	96,054		584,952	584,952
Quinine	OZ	200,000	350,000		350,000
Rubber	LT	59,958	21,592,140	5,391,736	26,983,876
Shellac	LB	1,560,995		261,489	261,489
Tin	LT	4,564	4,014,091	11,787,837	15,801,928
Vegetable tannin:					
Quebracho	LT	169		34,091	34,091
Zinc	ST	15,464	4,266,445	227,870	4,493,815
Total National and Supplemental					
Stockpile			\$36,140,280	\$193,870,814	\$229,511,094

Material	Unit	Quantity	Sales Commitments		
			Government Use	Industrial Use	Total Sales Value
DEFENSE PRODUCTION ACT INVENTORY:					
Aluminum	ST	7,416		\$ 8,891,094	\$ 8,891,094
Asbestos, chrysotile	ST	114		19,194	19,194
Cobalt	LB	3,948,006		6,619,587	6,619,587
Columbium	LB	553,841		4,141,156	4,141,156
Manganese, metallurgical	SDT	14,388		288,622	288,622
Nickel	LB	—		200	200
Titanium	ST	474		1,002,152	1,002,152
Tungsten	LB-W	5,398,754	984,449	12,304,587	13,289,036
Total DPA			\$984,449	\$28,266,592	\$29,251,041
FEDERAL PROPERTY ACT INVENTORY:					
Mercury	FL	7,108	\$ 550,414	\$ 2,934,721	\$ 3,485,135
Total Federal Property Act Inv.		7,108	\$ 550,414	\$ 2,934,721	\$ 3,485,135
GRAND TOTAL			\$37,675,143	\$224,572,127	\$262,247,270

¹ Credit adjustment for prior period.

NOTES ON STRATEGIC AND CRITICAL MATERIALS DISPOSAL ACTIVITIES JANUARY-JUNE 1967

Aluminum

Sales of primary aluminum under long-term contracts negotiated with the six domestic primary aluminum producers and one Canadian producer—Aluminum Company of America, Kaiser Aluminum & Chemical Corporation, Reynolds Metals Company, Olin Mathieson Chemical Corporation, Harvey Aluminum, Revere Copper and Brass Incorporated and Aluminium Limited Incorporated—continued during the period but at a much lower rate than previously. Sales totaled 43,711 short tons, valued at \$21.7 million, for the period, compared with 83,875 tons, valued at \$41.3 million, for the previous six months. During fiscal year 1967, producers purchased 127,586 tons, valued at \$63.0 million, as against 273,419 tons, valued at \$134.4 million, during the seven months the program was in effect in fiscal year 1966. The general economic slowdown throughout the period, along with lower production activity in construction and automotive in-

dustries are cited as major causes for the sharp drop in stockpile purchases.

Under the long-term arrangement worked out with the aluminum industry in the fall of 1965, the aluminum industry was obligated to purchase a minimum of 100,000 short tons or their Government purchase requirement, whichever was greater, but not more than 200,000 short tons during any calendar year. This agreement was based on full participation by all domestic producers and one Canadian primary producer. Since only six domestic producers and one Canadian primary producer are participating in the program, the participating producers are obligated to purchase a minimum of 90,300 short tons or their Government purchase requirement, whichever is greater, but not more than 180,600 short tons during calendar year 1967. Set-asides of 15,000 tons are provided annually for small business, nonintegrated and other nonparticipating producers which reduce the producers obligated

share in the amount of the set-asides sold during the year.

Participating producers currently are permitted to accelerate or defer purchases providing all deferred obligations to purchase during the first four-year period are fulfilled by the end of the period (December 31, 1969). A similar provision applies to each successive four-year period. Quantities purchased in excess of the maximum commitment in any year may be applied against the purchase obligations in any subsequent years during the life of the contract. Through June 30, 1967, purchases totaled 401,005 short tons, valued at \$197.4 million.

Castor Oil

Disposal offerings are made on a sealed-bid basis at two-month intervals. All of the offerings were oversubscribed, following the trend set in the July-December period. A total of 19.5 million pounds of castor oil was sold at a value of approximately \$3.2 million. The cumulative total sold since the first sale of August 15, 1962, amounts to 101.3 million pounds with a cumulative sales value of \$14.7 million, leaving 54.3 million pounds remaining unsold from the 1962 disposal authorization and another 46.0 million pounds excess to the stockpile awaiting GSA submission to the Congress for disposal consideration.

Chromite, Metallurgical

The domestic demand for metallurgical chromite has continued at a strong pace due to the prevailing Rhodesian crisis and the embargo placed on U.S. imports from that country.

On May 11, 1966, the Congress authorized the disposal of 885,000 short dry tons of metallurgical chromite from the National and Supplemental Stockpiles but removed ferrochromium (1.4 million tons) from the legislative request when industry representatives testified that the sale of ferrochromium would adversely affect the market.

During the January-June period, GSA entered into long-term contracts with six major producers and one trader for delivery of ap-

proximately 510,000 tons valued at \$13.5 million over a period of from one to six years accounting for practically all of the \$13.9 million sold during the period.

Cobalt

The domestic supply of cobalt became tight during the year due to increased demand and unsettled conditions in the principal source country, the Republic of the Congo.

Since announcing the release of 25 million pounds from the Defense Production Act inventory in August 1966, industry purchases have warranted a continuous review of the sales program. Following heavy responses to sealed-bid offerings during late 1966, GSA announced in January 1967 that cobalt would be sold off-the-shelf. Although shelf sales were initially limited to 1.5 million pounds annually, this limitation was removed when the Congo situation threatened to further cut back available supplies. Sales during January-June totaled 3.9 million pounds, valued at \$6.6 million, bringing the total sales to 5.5 million pounds, valued at \$8.9 million, for the 10 months starting August 1966.

Columbium

Sales of columbium-bearing ores and concentrates for the January-June period amounted to approximately 554,000 pounds, valued at \$4.1 million, compared with one million pounds valued at \$2.8 million for the same period in 1966. The higher dollar return in 1967 reflects the increase in unit price from \$2.71 per pound in 1966 to \$5.87 per pound in 1967. The higher unit price and demand for columbium were attributed to two major factors—the inability of Nigerian producers, the principal suppliers, to meet U.S. demands and the extremely tight market for tantalum which is physically associated with the predominately columbium-bearing ores. Based on an inventory analysis, OEP declared an additional 282,000 pounds of contained tantalum (25 percent or more of Ta_2O_5) in columbium ores, excess to stockpile needs. This action substantially aided industry in relieving the severity of the tantalum shortage situation.

Copper

As the availability of refined copper continued to fall well behind the constantly growing industrial demand, the President, on December 1, 1966, determined that the release of an additional 150,000 short tons of copper from the National Stockpile was required for purposes of the common defense, as provided for under Section 5 of the Strategic and Critical Materials Stock Piling Act, as amended. This was the third Presidential release of copper. These releases total 550,000 short tons since November 18, 1965, and reduce the stockpile inventory level to about 259,000 tons against an objective of 775,000 short tons.

The 150,000 tons were prorated to producers over the first nine months of calendar year 1967, on the basis of their 1965 production from domestic ore, for redistribution to consumers for defense-rated orders only, at no added cost. Government releases progressed at an average rate of approximately 20,000 short tons per month during January through June. Distribution of the balance of the 150,000 short tons will be accomplished in the third quarter of calendar year 1967.

In accordance with OEP's recommendation of March 17, 1966, which the President approved March 21, 1966, GSA has undertaken to expand domestic production of copper through the use of incentives on a selective basis. At the year end, GSA had reached the final stages of negotiations on a contract under the Defense Production Act covering potential production of approximately 65,000 tons of copper per year. It is estimated that production could start in 1969.

Lead

Lead sales during the six months ending June 30, 1967, declined substantially, totaling only 5,728 short tons, valued at \$1.7 million, compared with 43,293 tons, valued at \$12.1 million in the previous six months. Available supplies eased materially during the period due to increased domestic production and higher imports from foreign sources (quota restrictions were removed in October 1965). Since June 1966, lead has been offered for sale as a shelf-item on a daily purchase basis.

Magnesium

During the period, industry took the remaining 2,456 tons of magnesium, valued at \$1.5 million, available under the 21,500 tons authorized for sale by the Congress in August 1965. The domestic demand for magnesium has continued strong due to new commercial uses and military buildup. On the basis of revised supply-requirements studies, OEP declared as excess and approved the release of 55,000 tons from the National Stockpile. Proposed legislation authorizing the disposal of this quantity is pending before the Congress.

Molybdenum

The Congress authorized the release of 14 million pounds of excess molybdenum from the National Stockpile (PL 89-413) in May 1966. To effect equitable distribution in the face of the critical supply shortage, industry concurred that the materials should be allocated by BDSA against consumer applications for domestic consumption only with priorities given to defense-rated orders and alleviation of hardship, particularly small business. During the period, sales commitments totaled 739,352 pounds, valued at \$1.5 million. As of May 31, 1967, approximately 3.2 million pounds of molybdenum disulphide, delivered under outstanding contracts with producers for conversion into commercially usable forms, remain to be allocated by BDSA. Another 754,000 pounds are available from the stockpile, making a total of approximately 4.0 million pounds awaiting allocation by BDSA at the end of the fiscal year.

As of June 30, 15.0 million pounds of molybdenum were excess to the stockpile objective, but not included in the quantity authorized for release. Legislation for release of this excess is pending before Congress.

Nickel

The nickel market continued in critically short supply during January-June with the domestic supply deficit estimated at approximately 75 million pounds for the calendar year. By March 31, industry had taken all the available surplus authorized by the Congress

under PL 89-740 (November 2, 1966). Sales were restricted to domestic consumption and subject to allocation by the Business and Defense Services Administration on the basis of 90 percent for defense-rated orders and 10 percent for the alleviation of hardship cases. Total releases for fiscal year 1967 amounted to 51.2 million pounds, valued at \$45.3 million. Based on new supply-requirements studies, the stockpile objective was reduced in January from 100 million to 40 million pounds. OEP approved the release of the 60 million pounds surplus, subject to Congressional authorization, and legislative approval was requested by GSA in early February. The House approved the disposal in April, but adversely reported by the Senate Armed Services Committee on June 8, 1967.

In March, the Department of Commerce fixed the April set-aside of primary nickel for defense purposes at 25 percent of production —up from 12½ percent in February and March. This higher rate continued throughout the period ending June 30. Due to the high level of military demand and constantly growing domestic uses, consumers throughout all segments of the nickel industry have strongly urged Government officials to help meet the critical supply shortage and alleviate hardship by releasing surplus nickel from the stockpile.

Rubber

As announced in October 1966, the rate of disposal of rubber from the stockpile was reduced from 170,000 long tons to 120,000 tons (30,000 tons quarterly) effective January 1. The Government took this action in the interest of rubber producing countries when rubber prices continued to decline in the world market.

When the international rubber market continued at relatively low levels during the January-June period, producing countries strongly protested the Government's current sales program and urged a further reduction in the rate of rubber sales. Because of the importance of export revenues to the producing countries, the Government upon the recommendation of the Department of State, decided on June 9, 1967, to limit rubber sales, effective

July 1, to actual Government-use programs or 70,000 long tons annually, whichever is higher, in approximately equal quarterly installments.

Sales during the period, amounted to 59,958 long tons, valued at approximately \$27.0 million, making a total of 144,944 tons, valued at \$66.6 million for the fiscal year. This compared with 130,847 tons, valued at \$66.8 million, for the previous fiscal year. Of the 59,958 long tons, approximately 12,000 tons, valued at \$5.4 million, were commercial sales and 47,958 tons, valued at \$21.6 million, were for Government-use programs, including DOD truck and aircraft tires, and retreading programs.

Silver

In March 1967, the Secretary of the Treasury proposed legislation permitting the Treasury to remove the silver reserve requirements for silver certificates which are not expected to be presented for redemption. On June 24, 1967, Public Law 90-29 was enacted which permits the Secretary of the Treasury to determine from time to time the amount of silver certificates (not exceeding \$200,000,000) which in his judgment have been destroyed or irretrievably lost, or are held in collections, and will never be presented for redemption. This will release the silver heretofore retained in support of these certificates.

The Act further provides that all silver certificates now in circulation shall be exchangeable for silver bullion for one year following its enactment. Thereafter, all silver certificates will retain their monetary value but will not be redeemable for silver.

A further provision of PL 90-29 requires the Secretary of the Treasury to hold as a reserve for purposes of the common defense not less than 165,000,000 fine troy ounces of silver and upon the expiration of one year after the date of enactment, the Secretary of the Treasury shall transfer not less than 165,000,000 fine troy ounces of silver to the National Stockpile. This is the amount established as the stockpile objective by the Director of the Office of Emergency Planning on June 3, 1965 (Stockpile Objective Action No. 279).

Tin

Although tin continued to be one of the Government's major revenue producers, prices were somewhat lower than in the previous period. During January-June 1967, sales declined to \$15.8 million as compared with \$24.7 million for the previous six months. Totals for the fiscal year were 11,728 tons, valued at \$40.5 million, of which Government-use programs accounted for 2,502 tons, valued at \$8.7 million. Since tin disposals started in September 1962, cumulative sales have amounted to 85,803 tons, valued at \$296.4 million. As of June 30, 62,197 long tons remained available for disposal under Congressional authorization.

Tungsten

The world supply situation for tungsten continued to tighten during the period due to the higher rate of consumption and the limited quantities being offered for sale by the world's major producer, Communist China. GSA sales for the period totaled 5.4 million pounds, valued at \$13.3 million, bringing the total for the fiscal year to 9.8 million pounds, valued at \$23.3 million. During the April 1967 session of the Working Group of the United Nations Committee on Tungsten, the industry advisory

group to the U.S. delegate gave strong endorsement to GSA's tungsten disposal program. In June, the Government announced that tungsten would continue to be offered as a shelf-item on an unrestricted sales basis for the next program year.

Zinc

Sales of zinc during January-June amounted to 15,464 tons, valued at \$4.5 million, making a total of 26,604 tons, valued at \$7.8 million, for the twelve months. This compares to sales of 178,573 tons, valued at \$54.0 million, for the previous twelve months period ending June 30, 1966. The market has continued to weaken since early 1966 with zinc prices declining in May 1967—for the first time in two years—from 14½ cents per pound to 13½ cents. Trade sources attribute the situation to three market developments—lagging demand caused by cutbacks in automobile production, rising inventories at domestic smelter plants, and increased imports of foreign zinc offered to U.S. consumers at competitive prices. The drop in price below the 14½ cents level triggers stabilization payments to small domestic producers provided under the Lead-Zinc Small Producers Stabilization Act, as amended, October 5, 1965 (PL 89-238).

ACTIVITIES OF THE GENERAL SERVICES ADMINISTRATION RELATING TO STOCKPILING OF STRATEGIC AND CRITICAL MATERIALS

The General Services Administration is charged with the general operating responsibility, under policies set forth by OEP, for stockpile management, including (1) purchasing and making commitments to purchase, transferring, rotating, upgrading, and processing of metals, minerals, and other materials; (2) expansion of productive capacity through the installation of additional equipment in Government-owned plants and the installation of Government-owned equipment in privately-owned facilities; (3) storage and maintenance of all strategic materials held in Government inventories, and (4) disposal of

excess stockpile materials, including the development of disposal plans, selling the materials, and arranging for Government use of such materials.

The activities of the General Services Administration particularly in connection with procurement, upgrading and disposals have been summarized in the earlier sections of this report.

STORAGE AND MAINTENANCE

On June 30, 1967, approximately 47.8 million tons of strategic materials were stored at 148 locations, as follows:

Type of Facility	As of 6/30/67	Change in last 6 months
Military depots	40	-3
GSA depots	29	+2
Other Government-owned sites	15	0
Leased commercial sites .	14	0
Industrial plantsites	39	0
Commercial warehouses...	11	-1
TOTAL	148	-2

Custody of stockpile materials stored at the Voorheesville storage area of the Schenectady Army Depot and the Erie Army Depot was transferred to GSA on January 1, 1967. These facilities have been inactivated by the Army.

All stockpile materials were removed from the Sioux Army Depot, another facility inactivated by the Army. In addition, one commercial warehouse in New Bedford, Massa-

chusetts, was evacuated of stockpile materials.

Shipments from the stockpile continued at a heavy rate, as 541,000 tons were shipped during the report period. The total of 1,207,000 tons shipped during fiscal year 1967, is substantially the same as the 1,223,000 tons shipped during the preceding fiscal year.

Savings in recurring storage costs of \$366,000 per year are projected as a result of inventory reductions in the period.

A plan to evacuate the warehouses at the GSA depot in Sharonville, Ohio, was approved. Under the plan, as much as possible of the 125,000 tons in storage will be sold on disposal programs and the balance relocated to other Government depots. When the warehouse portion of the facility is inactivated, annual savings of over \$300,000 will be realized. During the report period, 16,000 tons were shipped from Sharonville on disposal sales and 51,000 tons relocated to other depots.

ACTIVITIES OF THE DEPARTMENT OF COMMERCE RELATING TO STOCKPILING OF STRATEGIC AND CRITICAL MATERIALS

RESPONSIBILITIES

The Department of Commerce has been delegated a number of responsibilities with regard to the National Stockpile and these in turn have been assigned to the Business and Defense Services Administration within the Department. BDSA prepares for the Office of Emergency Planning estimates of essential civilian and war-supporting requirements for strategic materials in a mobilization period, a basic element in determining stockpile objectives. In certain limited cases, it also prepares estimates of the mobilization supply of such materials. It reviews plans for disposal of surplus stockpile materials and it provides OEP or GSA with its evaluation of the market impact of proposed schedules of sales. In addition, it develops recommendations in the matter of purchase specifications and storage procedures. Also, it prepares special studies for OEP regarding strategic material problems and, in general, submits to OEP on behalf

of the Department recommendations or advice on stockpile policies and programs.

ESSENTIAL CIVILIAN AND WAR-SUPPORTING REQUIREMENTS

During the first half of 1967, there was virtually no activity in a primary area of BDSA's stockpiling responsibility, i.e., providing estimates of essential civilian war-supporting requirements for stockpile items in a mobilization period. Following completion of such estimates under nuclear-attack conditions in the previous half year for almost all stockpile items, a schedule was developed for reviewing conventional-war requirements over a twelve month period beginning toward the end of the present half year. However, action was suspended pending refinement by OEP of new guidelines for this purpose. It is expected that the revised guidelines will be made available shortly and that the schedule of reviews will be put into effect early in the second half of 1967.

DISPOSAL PROGRAM

Programs for disposal of most surpluses in the stockpile had been considered and approved by January 1966. Consequently, BDSA recommendations regarding the potential market impact of proposed disposals were limited to five items for which new surpluses had been generated through revision of stockpile objectives and nine items involving reviews of established disposal programs. Included in these groups were the following:

Abaca	Molybdenum
Beryl	Nickel
Bismuth	Platinum
Castor oil	Quartz crystals
Chromite, metallurgical grade	Rubber
Cobalt (two reviews)	Tin
Magnesium	Tungsten

HIGH-HEAT ALLOY AND SPECIAL PROPERTY MATERIALS

During the period under consideration, BDSA also submitted to OEP its annual report on the supply-requirements situation for certain high-heat alloy and special property materials in a mobilization period. As before, the report was directed to technological developments and trends in usage which could indicate a need for stockpiling additional materials or changing the form or specification of those materials already stockpiled. The report found that under existing circumstances no additions or changes would be necessary for those items covered by the study. The following materials were considered:

Beryl	Indium
Boron (elemental)	Silicon (high purity)
Cerium	Rhenium
Cesium	Rubidium
Columbium	Tantalum
Gallium	Tellurium
Germanium	Titanium
Graphite (artificial- special grades)	Tungsten
Hafnium	Zirconium

PURCHASE SPECIFICATION, SPECIAL INSTRUCTIONS AND STORAGE PROCEDURES

Among other regularly scheduled activities in the stockpile area, BDSA prepared comment on proposed storage procedures covering bauxite and submitted to OEP draft revisions of purchase specifications and special stockpile instructions for the following materials:

Purchase Specifications

Mica, muscovite block
Mica, muscovite film
Quinine sulphate
Rutile
Tantalum metal, capacitor grade

Special Stockpile Instructions

Antimony
Mica, muscovite block and film

Considerable work was done during the period on special stockpile studies and reports and on activities related to disposal programs. Significant among these were the following:

Nickel.—At the request of OEP, BDSA reviewed the extent to which nickel metal could be replaced by high purity nickel oxide in a mobilization period since the latter could be potentially in greater supply. After consultation with industry, it was found that the indicated shortage of metal in wartime could be substantially eased by the use of such nickel oxide. A report on this situation was submitted to OEP.

Antimony.—Antimony chemicals can be made from antimony metal or from antimony sulphide ore. Since 95 percent of the stockpile inventory consists of metal and only 4 percent of ore, it was necessary to determine if the industry capacity to use metal for chemical purposes was adequate to provide sufficient chemicals for mobilization needs. A survey of the industry situation was conducted to develop this information. It appeared that the capacity of industry to produce chemicals from metal was slightly in excess of mobilization requirements. However, because some producers must use ore for this purpose, it was recommended to OEP that arrangements be made to retain the ore in the stockpile inventory to

permit them to participate in the meeting of wartime requirements.

Fluorspar, Acid Grade.—The metallurgical grade fluorspar inventory is substantially short of the objective. There is, however, surplus acid grade fluorspar in the Government inventories sufficient to cover the metallurgical grade deficit. For this use, acid grade fluorspar must be briquetted and kept within certain specification limitations. The fluorspar industry was consulted regarding the feasibility of using, and specifications for, acid spar for metallurgical purposes.

Consumer Listings for the National Resource Analysis Center.—On March 28, 1967, OEP requested BDSA to prepare for the National Resource Evaluation Center (now the National Resource Analysis Center) up-to-date listings of consuming plants using 17 stockpile items. The data to be obtained would include the exact addresses and the normal consuming pattern of each plant. Since a detailed and time consuming survey would be necessary to acquire the necessary information for most items, it was necessary to establish a schedule which would permit coordination of the work with other BDSA responsibilities. Under the schedule, reports on all items should be completed by the end of October 1967. In the first half of 1967, the required data on four materials—diamond dies, ruby and sapphire, jewel bearings, and feathers and down—were assembled and sent to OEP.

Steel Production Capacity.—BDSA is preparing a survey form to be sent to the steel industry which should provide important data relative to mobilization planning, including steel production capacity. However, these data may not be available for several months after the schedule of estimating stockpile requirements is under way. Accordingly, at the request of OEP, BDSA prepared an informal estimate of steel production capacity covering carbon, alloy and stainless steel by type of furnace. This estimate, based on information at hand and discussions with industry, is necessarily interim in character but it is believed to be sufficiently close to the mark for use in the earlier calculations of mobilization

requirements for those stockpile items related directly or indirectly to steel production.

Tungsten.—OEP requested BDSA to develop a tungsten ore-tungsten product flow chart showing the output and capacity of each plant, the source and nature of supplies for such plants, and their locations in order to determine the degree of interdependence of the plants and to identify the degree of concentration of production of the intermediate products.

In the preparation of this chart, BDSA utilized the results of a 1964 survey of the industry which were modified to reflect later information obtained as the result of field trips and telephone inquiries. The data thus acquired became the basis for a flow chart which gave authoritative facts regarding the industry in a detail never before obtained. From this, OEP will be able to determine the appropriate action necessary to offset a cutoff of tungsten materials which might arise from a disruption of supply from plants in which production is highly concentrated.

Cobalt.—One of the strategic end uses of cobalt is providing a binder for carbide production. For this purpose, cobalt must be processed into a very fine powder which for the most part is imported. At the request of OEP, BDSA conducted an informal survey of cobalt processors to determine to what extent such fine powder could be domestically produced in an emergency. Preliminary results of the survey were reported to OEP.

Diamond Stones.—Statistically, the surplus of diamond stones in the National and Supplemental Stockpiles approximates 9 million carats. An approved disposal program covering 1.8 million carats of this surplus has been put into effect. However, to determine what stones could be sold, it became necessary to relate the inventory to the requirements by nine classes of stones and by individual sizes within the classes. (The latter groupings were 60 in number.) For this purpose, BDSA applied the GSA breakdown of the diamond stone inventory to each grouping. In a number of cases where deficits were shown, surplus stones in one group could be used to make up the deficit in an adjacent group. In other cases,

it was feasible to use surpluses of one class to provide for shortages of some groups in another class. Lastly, it was assumed some surplus larger stones could be processed to meet deficits of some small stone requirements. After making all such possible adjustments, a list of the remaining stones by classes and sizes was sent to OEP for use by GSA in identifying the types of stones to be sold in accordance with the disposal program.

Allocation of Stockpile Materials.—Because of short supply situations for nickel, molybdenum and copper, OEP directed that GSA sales of these commodities from the Government inventories should be in accordance with allotments by BDSA. Allotments by BDSA, however, would follow the basic guidelines set forth in the approved disposal plans, i.e., nickel and molybdenum shipments would be limited to defense orders and hardship cases (cases involving primarily those of small businesses), while copper would be sold only for defense use.

For the nickel and molybdenum disposals, BDSA prepared application forms which would provide sufficient detail to permit evaluation of the nature of the hardship of each applicant or validation of the defense order. Since sales would be made on a monthly basis, each purchaser had to submit individual applications prior to the month involved. Examination of the applications and determination of appropriate allotments in each case was burdensome but the equity of the distribution was indicated by industry's ready acceptance of the allotments.

The distribution of copper for defense purposes was much simpler since essentially it was prorated among the few domestic producers of copper from domestic ores, who in turn agreed to resell it at no profit to consumers, who would use it for defense-rated orders only.

In brief the following actions took place.

Nickel.—The distribution plan of surplus nickel from the National Stockpile as authorized under PL 89-740 was announced by the Department in December 1966. The 24.5 million pounds available for release were distributed on the basis of 90 percent (22.05 mil-

lion pounds) for defense-rated orders and 10 percent (2.45 million pounds) for hardship cases. Furthermore, all nickel distributed had to be consumed domestically. About 6.3 million pounds were allocated for use in December, of which 5.1 million pounds were allotted to defense-rated orders and 1,225,000 pounds to hardship cases. The remaining 1,225,000 pounds set aside for hardship cases were distributed in January and allotments of the balance of 17 million pounds for defense were spread equally over January, February and March 1967.

Molybdenum.—Congress authorized the disposal of 14 million pounds of surplus molybdenum in the National Stockpile in May 1966. Early in 1967, the urgency of demand had subsided greatly and in consequence applications validated by BDSA for the first quarter of calendar 1967 for subsequent shipment amounted to only 1.1 million pounds, of which 551,000 pounds were allotted to hardship cases. In the second quarter, validated applications fell further to 667,000 pounds, of which only 230,000 pounds were directed to hardship cases. As of June 30, 1967, approximately 4 million pounds remained to be distributed from GSA stocks and stocks sold to producers held for allocation instructions.

Copper.—On December 1, 1966, the President authorized the release of 150,000 short tons of refined copper from the Government stockpile. BDSA, in cooperation with other Government agencies, formulated plans for release of the copper. The total quantity is being sold by the General Services Administration to domestic producers of refined copper from domestic ore for resale to controlled materials producers to fill defense-rated orders only. The schedule of release, as finally approved and as negotiated with industry, follows:

January through

March	22,000 tons each month
April and May	20,000 tons each month
June and July	18,000 tons each month
August and	
September	9,000 tons each month

ACTIVITIES OF THE DEPARTMENT OF STATE RELATING TO STOCKPILING OF STRATEGIC AND CRITICAL MATERIALS

The Department of State provides advice and guidance in regard to the effects of stockpile program activities on U.S. foreign relations and deals with international relations problems arising out of these activities. The Department helps to assess the availability of strategic and critical materials from the primary producing countries and the reliability of these sources in time of national emergency. It participates in a review of the supply and demand situation for each of the strategic materials and helps to develop stockpile objectives.

The Department shares in the development of long-range plans for the disposal of surplus materials and conducts consultations with interested foreign governments on plans for proposed disposals. Based on these consultations, an evaluation is made of the political and economic effects of such plans on friendly foreign countries and on the foreign relations of the United States. As necessary, recommendations are made for the adoption or modification of proposed disposal plans.

The Department reviews proposals for the barter of United States surplus agricultural commodities for strategic materials. It also

assists and advises the Department of Agriculture on foreign policy problems arising from the implementation of barter programs.

Between January and June 1967, rubber growing countries, citing a persistent decline in the rubber market, forcefully sought a reduction in the U.S. rubber disposal program. A number of discussions, bilateral and multilateral, were conducted by the Department with interested governments before the public announcement on June 9 that the disposal rate would be cut-back and modified starting July 1.

A softening tin market strengthened apprehension among members of the International Tin Council regarding the U.S. tin disposal plans for the ensuing fiscal year. In June, the Department entered into consultations on this matter with the International Tin Council.

During April a review of the tungsten disposal program was presented to the Working Group of the UN Committee on Tungsten by the Department of State representing the United States Government.

Consultations and discussions on numerous other commodities were held with representatives of interested governments.

ACTIVITIES OF THE U.S. DEPARTMENT OF AGRICULTURE RELATING TO STOCKPILING OF STRATEGIC AND CRITICAL MATERIALS

TRANSFERS FROM STOCKPILE FOR DISPOSALS

In 1962, the General Services Administration transferred all National Stockpile extra-long staple domestic and foreign-grown cotton to the Commodity Credit Corporation. This involved about 123,000 bales (running) of Egyptian and Sudanese cotton. The foreign-grown cotton has been disposed of through an export sales program.

The GSA transfer to CCC involved 47,518 bales of domestic cotton which were added to the CCC inventory, making a total of 53,740 bales. Sales from this cotton have been for unrestricted use. Cumulative sales through

June 30, 1967 were 18,549 bales, leaving an inventory of 35,191 bales.

BARTER ACTIVITIES

The barter program of the U.S. Department of Agriculture exchanges agricultural commodities for foreign-produced strategic and other materials for stockpiling and for foreign materials, goods, and services required by other U.S. Government agencies. Barters are transacted mainly under the authority of the Agricultural Trade Development and Assistance Act of 1954, as amended (P.L. 480, 83rd Congress) and the Commodity Credit Corporation Charter Act, as amended.

Three barter contracts for strategic materials, valued at \$800,000, were signed during the period January-June 1967. Two of these contracts provided for delivery of selenium, valued at \$300,000, and the third provided for delivery of rutile, valued at \$500,000. The materials to be delivered under these contracts are needed to fill stockpile objectives.

ACTIVITIES OF THE DEPARTMENT STOCKPILING OF STRATEGIC

The Department of the Interior is responsible for the management, conservation, and development of the Nation's natural resources to meet the requirements of national security and an expanding economy. The Department provides advice and assistance to the Office of Emergency Planning in formulating and carrying out programs for the stockpiling of strategic and critical materials. The Department of the Interior conducts research in exploration, mining, beneficiation, and metallurgy and compiles information on production and consumption for use in stockpile planning.

The Department is responsible for emergency preparedness planning with respect to strategic metals and minerals and other resources, and conducts supply-requirements studies when market conditions or other circumstances indicate problem areas in which materials are likely to be in short supply and recommends appropriate action to overcome deficiencies. The Department also administers programs to encourage the exploration, development, and mining of minerals and metals for emergency purposes.

STOCKPILE DISPOSALS

The Department cooperates in the development of long-range programs for the disposal of surplus Government stockpile inventories and conducts consultations with representatives of the interested industries. The industry views along with analyses of the market situation are carefully considered in the development of Departmental recommendations for acceptance or modification of the proposed plans.

Strategic materials valued at \$10.3 million were delivered to CCC during January-June 1967, bringing the cumulative total of deliveries to CCC under barter contracts since 1950 to approximately \$1.6 billion. Of this total, \$223.3 million were transferred to the National Stockpile and about \$1.4 billion to the Supplemental Stockpile through June 30, 1967.

OF THE INTERIOR RELATING TO AND CRITICAL MATERIALS

RUTILE RESEARCH PROGRAM

Under the Domestic Rutile Expansion Program established by the OEP, the Department of the Interior developed a three-part comprehensive research program covering domestic titanium-bearing ores. The three-step program will provide for: (1) expanding the current resource investigations on rutile; (2) evaluating the economic potential of certain U.S. columbium-bearing rutile in strategic applications; and (3) testing the commercial use of alternate titaniferous materials as substitutes for rutile. The new research program is the initial step of the expansion program and is aimed at technological and economic problems involved in the commercial use of rutile and titanium-bearing ores.

OTHER ACTIVITIES

Two prototype instruments for silver exploration by *in situ* neutron activation have been built and tested by the Geological Survey. The sensitivity of the instruments is about 1.5 ounces silver per ton and maximum depth of penetration is about 20 inches. With the use of additional equipment, sensitivity probably could be increased to detect as little as 0.05 ounces per ton and by using a more powerful neutron source, depth of penetration might be increased.

A large area of potentially valuable zinc-lead metallization has been delineated by the Geological Survey in portions of the Lancaster quadrangle, Grant County, Wisconsin. Recognition of mineralized outcroppings broadens the target area for prospecting in the northwestern portion of the Wisconsin zinc-lead district.

Bureau of Mines research may enable easier and less costly fabrication methods for molybdenum, tungsten, and other strategic refractory metals or alloys. Preliminary data indicate the feasibility of melting molybdenum by an electroslag process using a slag composed of high-melting-point rare-earth metal oxides. A submerged electrode is melted and consumed in a flux made molten by resistance heating

and the refractory metal is transferred in droplets through the molten media to the forming ingot. Ingots prepared in this manner appear to be workable at temperatures from 600° to 750°C, whereas conventional vacuum-arc melted ingots must be worked between 950° and 1200°C.

Special and technical reports, issued during January-June 1967, having a relationship to strategic and critical materials are as follows:

BUREAU OF MINES

Reports of Investigations

- 6859 A One-Step Operation for Recovery of Manganese as Chloride From Ores and Slags
- 6885 Reconnaissance of Yttrium and Rare-Earth Resources in Northern New Jersey
- 6887 Deep Mine Stress Determinations Using Flatjack and Borehole Deformation Methods
- 6889 Refining Iron-Contaminated Zinc by Filtration and Centrifugation
- 6892 Investigations of the White Mountain Mercury Deposit, Kuskokwim River Basin, Alaska
- 6894 Solid-State Electromigration of Impurities in Cerium Metal
- 6902 Heats of Formation of Ytterbium and Thulium Trichlorides
- 6905 Reactions of Manganese With Silica
- 6911 Infrared Vibrations of Benzene Rings in Condensed Thiophenes
- 6914 Processing of High-Iron Arkansas Bauxite Ores
- 6915 Rhenium and Rhenium-Tungsten Deposition by Thermochemical Reduction of the Hexafluorides—A Preliminary Study
- 6923 Recrystallization of Chrome Spinel
- 6925 Low-Temperature Thermodynamic Properties of the Hydrates of Beryllium Sulfate
- 6927 Methods for Producing Alumina From Clay—An Evaluation of a Lime-Soda Sinter Process
- 6928 Preliminary Process Development Studies for Desulfating Great Salt Lake Brines and Sea
- 6929 Properties of Vanadium-Base Tungsten and Chromium Alloys
- 6932 Chattanooga Shale Investigations
- 6933 Lime-Soda Sinter Process. Correlation of Reaction Products With Extractibility of Alumina From Anorthosite
- 6938 Effects of Ultrasonics on Electrodeposition of Copper Alloys From Cyanide Electrolytes
- 6939 Adaptation of the Pedersen Process to the Ferruginous Bauxites of the Pacific Northwest
- 6940 Extraction of Germanium and Gallium From Coal Fly Ash and Phosphorus Furnace Flue Dust
- 6944 Metallurgical Testing of Hawaiian Ferruginous Bauxites—Concluding Report
- 6946 An Economic and Technical Evaluation of Magnesium Production Methods (in Three Parts)
- 6953 Selective Flotation of a Fluorspar Ore From Illinois
- 6955 Assigning an Area of Influence for an Assay Obtained in Mine Sampling
- 6956 The Tungsten-Cobalt System for Compositions to 85 Atomic Percent Cobalt
- 6957 Electrowinning High-Purity Neodymium, Praseodymium, and Didymium Metals From Their Oxides
- 6963 Tests for Tin-Lead Solders and Solder Joints
- 6964 Columbium and Tantalum Alloy Development

6969 Heavy Liquid Cyclone Concentration of Minerals (in Two Parts)
6972 An Electrolytic Process for Producing Ductile Vanadium
6974 Noble Metals, Molybdenum, and Tungsten in Hydrocarbon Synthesis

Information Circular

8325 Evaluation of Domestic Reserves and Potential Sources of Ores Containing Copper, Lead, Zinc, and Associated Metals.
8327 An Analysis of the Pacific Northwest Lead-Zinc Industry

U. S. GEOLOGICAL SURVEY

Professional Papers

575-B Geological Survey Research 1967, Chapter B. Short papers on economic geology, analytical methods, and related subjects.

Bulletins

1198-G Copper mosses as indicators of metal concentrations, by H. T. Scacklette.
1199-N Geology and bauxite deposits of the Rock Run and Goshen Valley areas, northeast Alabama, by P. E. Cloud, Jr.
1217 Geology of the Stewart Flat quadrangle, Caribou County, Idaho, by Kathleen M. Montgomery and T. M. Cheney (vanadium).
1218 General geology of the Mammoth quadrangle, Pinal County, Arizona, by S. C. Creasey (copper, lead, zinc, molybdenum, vanadium, tungsten, gold, silver).
1222-E Geology and ore deposits of the Steeple Rock mining district, Grant County, New Mexico, by R. L. Griggs and H. C. Wagner (copper, lead, zinc, gold, silver).
1228 Bauxite reserves and potential aluminum resources of the world, by S. H. Patterson.
1242-A Aeromagnetic and tectonic analysis of the Upper Mississippi Valley zinc-lead district, by A. V. Heyl and E. R. King.

Circulars

540 A simple mercury vapor detector for geochemical prospecting, by W. W. Vaughn.
543 Distribution of gold, tellurium, silver, and mercury in part of the Cripple Creek district, Colorado, by G. B. Gott, J. H. McCarthy, Jr., G. H. Van-Sickle, and J. B. McHugh.

Map

MR-46 Reported occurrences of selected minerals in Arizona, compiled by T. F. Stipp, L. B. Haigler, B. R. Alto, and H. L. Sutherland.

STATUS OF OBLIGATIONAL OPERATIONS
Under PL 117 and PL 520 for The National Stockpile
As of June 30, 1967

AUTHORITY	APPROPRIATED FUND *	MAKING ADVANCE CONTRACTS ^b	AUTHORIZATIONS FOR		TOTAL OBLIGATIONAL AUTHORITY (CUMULATIVE) ^d
			LIQUIDATING OUTSTANDING ADVANCE CONTRACTS ^c	LIQUIDATING OUTSTANDING ADVANCE CONTRACTS ^c	
Under PL 117—76th Congress					
PL 361—76th Congress, August 9, 1939	\$ 10,000,000	\$	\$	\$	\$ 10,000,000
PL 442—76th Congress, March 25, 1940	12,500,000				22,500,000
PL 667—76th Congress, June 26, 1940	47,500,000				70,000,000 *
Under PL 520—79th Congress					
PL 668—79th Congress, August 8, 1946	100,000,000	—	—	—	100,000,000
PL 271—80th Congress, July 30, 1947	100,000,000	75,000,000	—	—	275,000,000
PL 785—80th Congress, June 25, 1948	225,000,000	300,000,000	—	—	800,000,000
PL 786—80th Congress, June 25, 1948	75,000,000	—	75,000,000	—	800,000,000
PL 119—81st Congress, June 28, 1949	40,000,000	270,000,000	—	—	1,110,000,000
PL 150—81st Congress, June 30, 1949	275,000,000	250,000,000	—	—	1,635,000,000
PL 150—81st Congress, June 30, 1949	250,000,000	—	250,000,000	—	1,635,000,000
PL 434—81st Congress, October 29, 1949	—	—	100,000,000	—	1,535,000,000
PL 750—81st Congress, September 6, 1950	365,000,000	—	240,000,000	—	1,650,000,000
PL 750—81st Congress, September 6, 1950	240,000,000	125,000,000	—	—	2,025,000,000
PL 843—81st Congress, September 27, 1950	573,282,440 ^e	—	—	—	2,508,282,440
PL 911—81st Congress, January 6, 1951	1,834,011,000	—	—	—	4,433,148,440
PL 253—82nd Congress, November 1, 1951	500,216,600	—	—	—	5,029,350,040
PL 258—82nd Congress, November 1, 1951	200,000,000	—	200,000,000	—	5,028,350,040
PL 455—82nd Congress, July 25, 1952	208,079,000	—	70,000,000	—	5,157,888,940
PL 176—83rd Congress, July 31, 1953	—	—	30,000,000	—	5,127,888,940
PL 428—83rd Congress, June 24, 1954	—	—	27,000,000	—	5,099,788,940
PL 668—83rd Congress, August 26, 1954	379,952,000 ^f	—	—	—	5,470,600,940
PL 112—84th Congress, June 30, 1955	321,721,000 ^g	—	—	—	5,801,411,940
PL 112—84th Congress, June 30, 1955	27,400,000	—	27,400,000	—	5,801,411,940
PL 844—85th Congress, August 28, 1958	3,000,000	—	—	—	5,804,411,940
Rescinded by PL 255—86th Congress, September 14, 1959	—58,970,928 ^j	—	—	—	5,740,041,026
PL 626—86th Congress, July 12, 1960	22,297,000 ^k	—	—	—	5,768,278,026
PL 141—87th Congress, August 17, 1961	16,082,610 ^l	—	—	—	5,784,980,536
PL 741—87th Congress, October 3, 1962	8,720,887 ^m	—	—	—	5,793,600,428
PL 215—88th Congress, December 10, 1963	23,025,000	—	—	—	5,817,616,428 ⁿ
PL 507—88th Congress, August 30, 1964	9,310,168 ^o	—	—	—	5,826,934,591
PL 16—89th Congress, April 30, 1965	118,500	—	—	—	5,827,053,091
PL 128—89th Congress, August 16, 1965	16,096,284 ^p	—	—	—	5,848,140,875
PL 556—89th Congress, September 6, 1966	18,498,789 ^q	—	—	—	5,861,648,164
PL 21—90th Congress, May 29, 1967	244,000	—	—	—	5,861,887,164
Total PL 117 and 520	\$5,981,887,164	\$1,020,000,000	\$1,020,000,000	\$5,981,887,164	

* Congressional appropriations of funds for stockpiling purposes.

SOURCE: GENERAL SERVICES ADMINISTRATION

^b Congressional appropriations of contracting authority for stockpiling purposes in advance of appropriation of funds.

^c Congressional authorization to liquidate outstanding obligations incurred under previously granted advance contract authority.

^d Cumulative total of appropriated funds and advance contract authorization, less authorization to liquidate outstanding advance contract.

* Excludes \$8,845,792 received from sale of stockpile materials for wartime consumption. Receipts were returned to Treasury, February 1948.

^f Cancellation of previously authorized authority to make contracts.

^g Excludes \$25,404,921 transferred to operating expenses for rehabilitation of Government-owned material producing plants.

^h Excludes \$48,000 transferred to Transportation and Public Utilities Service, GSA.

ⁱ Excludes \$480,000 transferred to Transportation and Public Utilities Service, GSA and \$100,849,000 transferred to General Fund Receipts on June 27, 1966—PL 628—84th Congress.

^j As of June 30, 1959 this amount included cash of \$52,350,792 and receivables of \$6,020,181.

^k Excludes \$7,768,000 transferred to other GSA Funds for classified and wage board salary increases during 1961.

^l Appropriation of \$40,000,000 of which \$22,700 transferred to Office of Administrator, GSA and \$28,294,790 transferred to General Fund Receipts.

^m Appropriation of \$18,005,000 less transfers to General Fund Receipts of \$9,365,118.

ⁿ Excludes receipts from rotational sales.

^o Appropriation of \$17,765,000 less returns to Treasury of \$8,485,882.

^p Appropriation of \$17,400,000 less returns to Treasury of \$1,803,716.

^q Appropriation of \$10,847,000 less returns to Treasury of \$1,358,211.

TOTAL OBLIGATIONS AND EXPENDITURES OF STOCKPILING FUNDS
Under PL 117 and PL 520 for THE NATIONAL STOCKPILE
CUMULATIVE AND BY FISCAL PERIOD THROUGH JUNE 30, 1967

Fiscal Period	OBLIGATIONS INCURRED ^A		EXPENDITURES ^B	
	Net Change By Fiscal Period	Cumulative As of End of Period	By Fiscal Period	Cumulative As of End of Period
Prior to Fiscal Year 1948	\$ 123,871,685	\$ 123,871,685	\$ 66,330,731	\$ 66,330,731
Fiscal Year 1948	252,901,411	376,773,096	82,907,575	149,288,306
Fiscal Year 1949	459,766,881	836,539,977	304,486,177	453,724,483
Fiscal Year 1950	680,427,821	1,516,967,798	440,834,970	894,559,453
Fiscal Year 1951	2,075,317,099	3,592,284,897	655,537,199	1,550,096,652
Fiscal Year 1952	948,117,547	4,540,402,444	844,683,459	2,894,780,111
Fiscal Year 1953	252,375,163	4,792,777,607	906,158,850	3,800,938,961
Fiscal Year 1954	116,586,681	4,909,364,288	644,760,321	3,945,699,282
Fiscal Year 1955	321,799,833	5,231,164,121	801,310,094	4,747,009,376
Fiscal Year 1956 ^c	251,692,667	5,482,856,788	382,011,786 ^c	5,129,021,162 ^c
Fiscal Year 1957	190,000,109	5,672,856,897	354,576,558	5,488,597,720
Fiscal Year 1958	54,473,250	5,727,330,147	178,753,997	5,657,351,717
Fiscal Year 1959	38,710,879	5,766,041,026	65,260,098	5,722,611,815
Fiscal Year 1960	19,859,290	5,785,900,316	49,227,142	5,771,838,957
Fiscal Year 1961	29,082,919	5,814,983,235	33,925,431	5,805,164,388
Fiscal Year 1962	31,179,407	5,846,162,642	33,695,431	5,838,859,819
Fiscal Year 1963	17,414,900	5,863,577,542	22,104,176	5,860,963,995
Fiscal Year 1964	15,489,597	5,879,067,139	16,091,067	5,877,055,062
Fiscal Year 1965	16,288,732	5,895,355,871	16,561,275	5,893,616,337
Fiscal Year 1966	16,296,070	5,911,651,941	16,468,100	5,910,084,487
Fiscal Year 1967	18,197,410	5,929,849,351	17,981,875	5,928,066,112

SOURCE: GENERAL SERVICES ADMINISTRATION

^A Figures are the sum of obligations incurred under PL 520, 79th Congress and PL 117, 76th Congress.
Final obligations under PL 117, 76th Congress were incurred in Fiscal Year 1949.

^B Figures are the sum of expenditures under PL 520, 79th Congress and PL 117, 76th Congress.
Final expenditures under PL 117, 76th Congress were made in Fiscal Year 1951.

^c 1956 and subsequent fiscal periods and cumulative expenditures are reported on an accrual basis.

EXPENDITURES OF STOCKPILE FUNDS, BY TYPE

(for the National Stockpile)

Cumulative and for Second Half Fiscal Year 1967

Type of Expenditure	Cumulative Through December 31, 1966	Six Months Ended June 30, 1967	Cumulative Through June 30, 1967
Expenditures			
Gross Total	\$6,462,796,776	\$9,615,250	\$6,472,412,026
Less: Adjustments for Receipts from Rotation Sales and Reimbursements	544,036,248	309,666	544,345,914
Net Total	5,918,760,528	9,305,584	5,928,066,112
Material Acquisition Costs, Total	5,438,875,639	199,219	5,438,574,858
Stockpile Maintenance Costs, Total	411,959,089	7,014,091	418,973,180
Facility Construction	48,772,457	—	48,772,457
Storage and Handling Costs	265,486,821	7,014,044	272,450,865
Net Rotation Costs	102,750,311	47	102,750,358
Administrative Costs	58,804,712	1,644,665	59,949,377
Operations, Machine Tool Program	10,121,088	447,609	10,568,697

Cumulative figures are the total of expenditures under PL 117, 76th Congress and PL 620, 79th Congress. Expenditures under PL 117 totaled \$70,000,000 of which \$55,625,287 was for materials acquisition costs and \$14,874,788 was for other costs. Final expenditures under PL 117 were made in FY 1961.

SOURCE: GENERAL SERVICES ADMINISTRATION